

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

-----X
CEDAR PETROCHEMICALS, INC.,
Plaintiff,

-v-

DONGBU HANNONG CHEMICAL CO., LTD.,
Defendant.
-----X

ALISON J. NATHAN, District Judge:

06 Civ. 03972 (AJN)

OPINION

Plaintiff Cedar Petrochemicals, Inc. (“Cedar”), brought this breach of contract action against Defendant Dongbu Hannong Chemical Co., Ltd. (“Dongbu”), alleging that Dongbu had delivered non-conforming liquid phenol, in violation of the parties’ written and oral contracts and in contravention of its obligations under the Convention on Contracts for the International Sale of Goods, Apr. 11, 1980, S. Treaty Doc. No. 98–9 (1983), 19 I.L.M. 671 (1980), reprinted at 15 U.S.C. App. (1998) (“CISG” or the “Convention”). A nonjury trial was held in this action on September 30, October 1, and October 2, 2013.

Pursuant to this Court’s procedures for nonjury trials, the parties submitted the direct testimony of their witnesses by affidavit and their documentary evidence with the joint pretrial order. The Court received direct examination declarations from seven Plaintiff witnesses: Martin East (“East”), J.N.A. van de Giesen (“van de Giesen”), Fernando Irisarri Gonzalez (“Irisarri”), Salim Harfouche (“Harfouche”), John Minton (“Minton”), Charlene Silva (“Silva”), and Cho Yong (“Yong”). Of these declarant witnesses, Minton testified as an expert witness and East testified as both a fact and expert witness. The Court also received deposition designations for two Plaintiff witnesses: Gry Berg-Nilsen (“Berg-Nilsen”) and Stig Egeland (“Egeland”). Finally, the Court received a direct examination declaration from the single Defense witness,

Haolin Chu (“Chu”). Of these witnesses, only East, Irisarri, Harfouche, and Minton were cross-examined live at trial. This opinion represents the Court’s findings of fact and conclusions of law for purposes of Rule 52 of the Federal Rules of Civil Procedure. *See* Fed. R. Civ. P. 52. The findings of fact appear principally in the “Findings of Fact” section, but also appear in the remaining sections of the opinion.

In short, the parties’ dispute relates to a 2005 maritime shipment of the liquid petrochemical phenol. The phenol at issue (“the Phenol”) was transported from its on-shore storage tank in Yuso, Korea, to Defendant’s ship, the Green Pioneer, which carried it to Ulsan Anchorage, Korea. Once there, the Phenol was transferred from the Green Pioneer to Plaintiff’s ship, the Bow Flora, which carried it to port at Rotterdam, The Netherlands. On arrival at Rotterdam, it was determined that the Phenol was damaged. The parties agree that, in order to demonstrate liability, Plaintiff must prove by a preponderance of the evidence that the Phenol was injured before it passed the rail of the Bow Flora. Plaintiff conceded that, for it to make the requisite showing under the facts of this case, the Court must be persuaded by its experts’ theory regarding “seeding,” which they argue explains the delay between the alleged injury to the Phenol and the manifestation of the damage to the Phenol, i.e., its discoloration. On this factual point, the Court was unpersuaded. Accordingly, judgment will be entered in favor of Defendant.

I. FINDINGS OF FACT

After a protracted discovery period, all discovery in this matter closed on April 30, 2013. The parties’ Joint Proposed Pretrial Order (“JPTO”), proposed findings of fact and conclusions of law, and other pretrial materials were submitted on July 17, 2013. The Court also received amended proposed findings of fact and conclusions of law and post-trial briefing on October 9, 2013. Based on the evidence presented at trial, the facts stipulated to in the JPTO and the

Court's assessment of the credibility and demeanor of the witnesses and the inferences reasonably to be drawn there from, the Court makes the following findings of facts. Cites to the JPTO signify stipulated facts.

A. The Parties and Jurisdiction

Cedar is a corporation engaged in the business of buying and selling liquid petrochemical products, including phenol, and is organized and exists under and by virtue of the laws of the State of New York, with its principal place of business in New York, New York. JPTO ¶¶ 1, 2. Dongbu is a corporation engaged in the business of manufacturing and selling petrochemical products, and is organized and exists under and by virtue of the laws of Korea, with its principal place of business in Seoul, Korea. JPTO ¶¶ 3, 4. Based on the parties' diversity of citizenship, and with a statutorily sufficient amount in controversy, the Court has jurisdiction over this matter under 28 U.S.C. § 1332. *See also Cedar Petrochemicals, Inc. v. Dongbu Hannong Chem. Co., Ltd.*, No. 06 Civ. 3972 (LTS), 2011 WL 4494602, at *1 (S.D.N.Y. Sept. 28, 2011).

B. Phenol

The liquid petrochemical at issue in this dispute is the polymer phenol (hydroxybenzene, C_6H_5OH). Pure phenol is a white, crystalline solid at room temperature, which liquefies at around 41°C. JPTO ¶ 11. In its liquid or "molten" form -- which is the form in which it is generally transported -- pure phenol is a clear, colorless liquid. Phenol is susceptible to discoloration in both its liquid and solid states. Phenol discoloration is measured using the Hazen units ("HU") on the Platinum-Cobalt Scale ("Pt/Co Scale"). Silva Decl. ¶ 12; Yong Decl. ¶ 10; Exhibits 2-3. Commercially, phenol discoloration is problematic because most of the applications for phenol, e.g., compact discs, airplane windows, and car optics, require the phenol to be colorless, or under 10 HU. PX 68 App'x 4.3; Minton Decl. ¶ 19.

The universe of causes of color change in phenol is not defined, but it is accepted that among such causes are manufacturing defects, contamination, and exposure to heat. JPTO ¶ 12, 13; Tr. 300; DX FF. Neither party contends that there was a manufacturing defect in this case. Phenol discoloration through contamination can occur as a result of the presence of impurities in the phenol; “discoloration is promoted by the action of water, light, air, and catalysts, e.g., traces of iron and copper.” JPTO ¶¶ 12, 13; DX FF. Liquid phenol may also discolor as a result of exposure to heat, though there is some disagreement in the petrochemical industry and the scientific community as to the precise temperature at which heat exposure can or will result in such discoloration. Additionally, “[w]hen stored as a solid in the original drum or in nickel, glass-lined, or tanks lined with baked phenolic resin, phenol remains colorless for a number of weeks,” JPTO ¶ 14; DX FF, but “may acquire a yellow, pink, or brown discoloration.” JPTO ¶ 15; DX FF.

To avoid discoloration, experts in the field recommend that phenol be transported and stored in its liquid form. The generally recommended temperature ranges vary from 50°C to 60°C, JPTO ¶¶ 16, 17, 18, and Minton testified that “[i]n the petrochemical industry, phenol is stored and shipped as a bulk liquid at temperatures ranging from 50°C C to 60°C.” Minton Decl. ¶ 20. Here, however, the parties’ agreement (discussed below) called for the Phenol to be shipped at a temperature between 50°C and 55°C. Tr. 57-58; DX TT. On cross examination, Minton claimed that storage at any point within this range would not generally cause discoloration and that storage anywhere within the 50°C to 55°C range was equally acceptable. Tr. 300-301. This testimony contradicted his prior testimony at his deposition, where he stated both that phenol could only be “heat[ed] to 60°C for a very short time without a problem,” Minton Decl. 84:19-21, and that “in general, the lower the temperature in the 50°C to 55°C range

the better.” *Id.* at 86:21-22. Overall, the testimony established that phenol discoloration is neither a well understood or fully established topic. Minton acknowledged that phenol color change is generally “a very poorly understood subject,” Tr. 299:5-8, both “by [himself] and others,” 299: 10-13, and that this is true “even with a great deal of research,” Tr. 299:5-8. And East acknowledged that “the cause of color degradation in Phenol has been a contentious issue for over 100 years.” Tr. 60:13-17.

C. The Contract

Unless otherwise noted, the parties have stipulated to the following facts with regard to the contract. In May 2005, a representative from Kumho -- a phenol manufacturer that arranges sales via export agents, including Dongbu -- and a representative from Cedar’s local agent in Korea, H.V. Co., Ltd., met at a restaurant in Seoul. JPTO ¶¶ 6, 7, 8. At that meeting, Kumho proposed that Dongbu and Cedar be principal parties to a proposed sale of 2,000 metric tons (“mt”) of phenol. JPTO ¶ 9. Dongbu agreed that it would enter into a contract with Cedar by which it would sell 2,000 mt +/- 5% of liquid phenol conforming to Kumho’s Standard Guaranteed Sales Specifications (“Specs”) delivered FOB Ulsan Anchorage, in exchange for \$950/mt. Shortly thereafter, on May 17, 2005, Cedar faxed to Dongbu Contract No. T250-P1-0505NYC (the “Written Contract”) which called for the purchase and sale of “2,000 MTS +/- 5% Seller’s Option.” This contract was drafted by Cedar, and signed and stamped by Dongbu. JPTO ¶¶ 20, 21.

Among other things, the Written Contract provided: (1) that the agreement would be governed by “Incoterms 2000 as amended to date,” (“Incoterms”); (2) that “[the] agreement [would be] subject to [Plaintiff’s] standard terms and conditions,” which were attached and incorporated by reference; (3) that “[i]n the event of a conflict between the terms of th[e]

agreement and [Plaintiff's] standard terms and conditions, the terms of th[e] agreement [would] control;" and (4) that the "[f]ollowing set[] forth the entire agreement of the parties." PX 5. In addition, the Written Contract called for the purchase of "Pure Phenol as per attached Kumho's Guaranteed Sales Specs," to be delivered "FOB Ulsan Anchorage, Korea." JPTO ¶ 19; PX 5. As defined in "Incoterms," FOB, or "Free on Board," "means that the seller delivers when the goods pass the ship's rail at the named port of shipment," which in turn "means that the buyer has to bear all costs and risks of loss or damage to the goods from that point." *Cedar Petrochemicals, Inc.*, 2011 WL 4494602, at *3.

The standard terms and conditions referred to in the Written Contract refer to Kumho's standard "specification of phenol," which call for color at max 5 HU. PX 2, 3; Yong Decl. ¶ 10. At some point, after May 17, 2005, the parties' contract was amended to substitute the phenol specifications from a third-party, Ertisa. Yong Decl. ¶ 16; PX 13. Ertisa's product specifications for phenol call for color at max 10 HU, PX 12; Yong Decl. ¶ 16, and were incorporated into the letter of credit that Plaintiff procured on May 19, 2005. Yong Decl. ¶ 17, 18; PX 18. Accordingly, for the Phenol to be on specification at the time of delivery -- FOB Ulsan Anchorage, Korea -- the phenol had to be at or under 10 HU.

D. Transfer, Sampling, and Inspection

In addition to the terms discussed above, the Written Contract contained an inspection term, which stated that inspection was to be "[b]y mutually acceptable/independent surveyor whose findings as to quantity/quality as per shore tank figures at load port are final and binding on both parties." JPTO ¶ 22. The parties appointed internationally recognized independent inspection companies SGS Korea Co., Ltd. ("SGS") and Global Surveyors & Inspectors Ltd. ("GSI") to monitor the quality of the Phenol in Korea. Silva Decl. 27; JPTO ¶ 18. Although the

individual who took the various samples for SGS cannot specifically recall any of the sampling he performed with regard to the Phenol at issue, it was his practice to use new, clean sampling bottles when sampling petrochemical cargos. JPTO ¶¶ 43, 44.

In summary form, the transportation of the Phenol was as follows. On or about May 20, 2005, the Phenol was loaded from the manufacturer's shore tanks onto a ship chartered by Defendant, the Green Pioneer, in the port of Yosu. From there, the Phenol was shipped to Ulsan, where it was transferred to Plaintiff's vessel, the Bow Flora, which carried the Phenol to its final destination, Rotterdam. JPTO ¶ 33. As agreed upon, at various key points during the course of the Phenol's transport, samples were pulled and tested or retained. JPTO ¶ 33.

In May 2005, prior to loading the phenol onto the Green Pioneer, GSI tested one sample from Yosu shore tanks FB-991 and FB-1993. JPTO ¶ 34. GSI determined that this sample was on-specification for all parameters, including color at less than 5 HU. JPTO ¶ 35. SGS confirmed these findings. JPTO ¶ 36. GSI retained a composite sample of the Phenol from both of the Yosu shore tanks. This sample, GSI 005946, was stored in GSI's Ulsan storage facility, in a solid state at room temperature, in a clear, glass bottle. JPTO ¶ 37.

After the shore tank testing, the Phenol was loaded into five tanks aboard the Green Pioneer at Yosu. JPTO ¶ 38. Once the Phenol was transferred, SGS pulled and tested a composite sample from the five tanks on the Green Pioneer. JPTO ¶ 39. That sample was also on-specification for all parameters, including color at 3 HU. In addition to this sample, SGS and GSI each pulled, but did not contemporaneously test, additional composite samples, GSI 0002387 and SGI 859048, which were transferred to and retained aboard the Bow Flora during the voyage to Rotterdam. The samples aboard the Bow Flora were stored in a solid state, at ambient temperature, in clear, glass bottles located in the ship's storage locker. JPTO ¶¶ 40, 41.

SGS also pulled and retained an additional sample, SGS 534093, at its storage facility in Ulsan. JPTO ¶ 42.

On May 21, 2005, the Green Pioneer sailed from Yosu for Ulsan, where it arrived on May 24, 2005. JPTO ¶¶ 45, 46. That same day, the Phenol was transferred from Defendant's ship, the Green Pioneer, to Tank 13 Center ("Tank 13C") aboard Plaintiff's vessel, the Bow Flora. Transfer commenced at 11:05 AM, but was stopped from 11:08 AM until 11:28 AM "due to frozen of cargo line of coaster [sic]." JPTO ¶ 47; PX 29. Transfer resumed at 11:28 AM, but was stopped again at 11:37 AM, after one foot of Phenol had been loaded into Tank 13C, JPTO ¶ 48., in order permit surveyors to obtain samples of the portion of the Phenol that had been transferred (hereinafter, "first-foot" samples). JPTO ¶ 48. SGS tested one of these first-foot samples and determined that it was on specification for all parameters, including color at 4 HU. JPTO ¶ 49. SGS pulled an additional first-foot sample, SGS 534095, which it retained at its storage facility in Ulsan under the conditions described above. The crew of the Bow Flora also pulled a first-foot sample, which it retained aboard the Bow Flora. JPTO ¶ 52. After the first-foot samples were pulled, the remainder of the Phenol was transferred to the Bow Flora. JPTO ¶ 53.

Once the Phenol was fully loaded onto the Bow Flora, SGS Korea pulled and tested a post-load running sample, which it determined to be on-specification for all parameters, including color at 4 HU. JPTO ¶ 54. The term "running sample" refers to a sample that is taken by lowering an empty sample bottle into the phenol and then pulling it back up through the tank; these samples are "supposed to represent the entire product in th[e] tank." Tr. 67:12-14. The term composite sample refers to a proportionate sample of multiple tanks. SGS also pulled and retained a sample, SGS 534096, which was stored in its facility in Ulsan under the conditions

described above. JPTO ¶ 57. Finally, SGS pulled an additional post-load sample, SGS 859049, as did the Bow Flora crew. These two samples, as with all of the samples retained aboard the Bow Flora, were stored as described above. JPTO ¶ 59. In sum, the results of the samples that were contemporaneously tested prior to and after transfer to the Bow Flora (the “Contemporaneous Tests”) are as follows:

Table 1: Results of the Contemporaneous Tests

Sample Pulled	Description	HU on Test Date
05/20/05	Yosu, Korea Shoretanks (Composite)	Less than 5
05/20/05	Green Pioneer After Loading (Composite)	3
05/24/05	Bow Flora First Foot After Loading	4
05/24/05	Bow Flora Full Tank After Loading	4

JPTO ¶ 38. Although not specifically stipulated to, the parties agree that there is nothing with regard to the contemporaneous tests that in any way calls into doubt the accuracy of the measurements at the time they were taken, Tr. 496:5-10; PX 67 at 2. The Court finds that these numbers are true and accurate descriptions of the color of the Phenol at the time the contemporaneous samples were pulled and tested.

On May 24, 2005, after loading was completed at Ulsan, the Bow Flora sailed for Plaintiff’s intended destination port, Rotterdam, where it arrived on July 19, 2005. JPTO ¶¶ 60, 61. Upon arrival, SGS surveyed the quality and quantity of the subject Phenol, and determined that the Phenol was off-specification for color at greater than 500 HU. JPTO ¶ 64. Minton described this HU number as “shockingly high.” Tr. 303:20-22. Irisarri, the Senior Vice President of CESPA Quimica, a family of companies to which Ertisa now belongs, noted that the Phenol was so far off-specification that it could not be salvaged through the ordinary process he would employ, “blending,” whereby on- and off-specification Phenol are mixed to lower the

overall HU. Irissari Decl. ¶ 2, 3, 4; Tr. 423:16-23; 432:19-25. Ultimately, the Phenol was sold to a company in India at a heavy loss. Tr. 389:12-16; PX 67.

Meanwhile, on July 20, 2005, Plaintiff notified Defendant that the Phenol had arrived off-specification, indicated that it held Defendant responsible, and noted that SGS would undertake further testing in Rotterdam. JPTO ¶ 65. On July 21, 2005, Defendant acknowledged Plaintiff's claim, but denied fault and declined to witness the additional testing in Rotterdam. JPTO ¶ 66.

On July 29, 2005, SGS conducted tests in Rotterdam (the "Rotterdam Tests"), of the various samples that had been retained aboard the Bow Flora (the "retained samples"). As can be seen in the table, below, each of the samples tested above specification, though no particulate matter was found in any of the samples. JPTO ¶ 69. The results of these tests are summarized in SGS Witnessing Report 63099. JPTO ¶¶ 67, 68; PX 55. All future references to Samples 1 through 9, e.g., Sample 7, will refer to the samples as they were numbered for purposes of the Rotterdam Tests.

Table 2: Results of the Rotterdam Tests (July 29, 2005)

Sample No.	Sample Pulled	Sample ID	Description	HU on Test Date
1	05/24/05	Crew	Bow Flora Full Tank After Loading (Ulsan)	35-40
2	05/24/05	Crew	Bow Flora First Foot During Loading (Ulsan)	60-70
3	05/20/05	GSI 002387	Green Pioneer Composite After Loading (Yosu)	40-50
4	05/24/05	GSI 002396	Bow Flora Composite After Loading (Ulsan)	60-70
5	05/21/05	SGS 859048	Green Pioneer Composite from Running Samples Before Discharge (Ulsan)	70-80
6	05/24/05	SGS 859049	Bow Flora Running Sample After Loading (Ulsan)	100-150
7	07/20/05	SGS 38704	Bow Flora Before Discharge (Rotterdam)	>500
8	07/28/05	SGS 37722	Shore Tank 116 After Discharge (Rotterdam)	>500
9	07/28/05	SGS 35363	Shore Tank 312 After Discharge (Rotterdam)	>500

On August 4, 2005, Plaintiff and Defendant agreed to jointly test the samples that SGS and GSI had retained in Ulsan. JPTO ¶ 73. Pursuant to that agreement, on August 8, 2005, representatives from both parties attended the joint analysis at the SGS laboratory in Ulsan.

JPTO ¶¶ 72, 74, 75. Also in attendance was a representative from Minton, Treharne & Davies Ltd. (“MTD”), a firm which had been hired by Ertisa’s insurance broker, Marsh Ltd. (“Marsh”) to investigate the cause of the discoloration. At the joint analysis, the parties agreed: (1) that all samples/tags were sound and intact before testing; (2) on the test methods to be employed in analyzing the retained samples; (3) on the results; and (4) on SGS’s issuance of an Analytical Report, dated August 8, 2005, which the parties executed the same day. JPTO ¶ 76. The test results for the four samples that were tested at the joint analysis (the “Ulsan Tests”) were as follows, and all future references to Samples A through D, e.g., Sample C, will refer to the samples as designated for purposes of the Ulsan Tests.

Table 3: Results of the Ulsan Tests (August 8, 2005)

Sample No.	Sample Pulled	Sample ID	Description	HU on Test Date
A	05/24/05	SGS 534096	Bow Flora Full Tank After Loading (Ulsan)	10
B	05/24/05	SGS 534095	Bow Flora First Foot During Loading (Ulsan)	20-30
C	05/21/05	SGS 534093	Green Pioneer Composite After Loading (Yosu)	30-50
D	05/20/05	GSI 005946	Bow Flora Composite After Loading (Ulsan)	3-5

JPTO ¶ 77. The test results show that although the middle two samples, Samples B and C, were off specification, both the shoretank sample and the Bow Flora after full-tank loading samples, Samples A and B, were still on specification when tested in August. In addition, SGS’s Analytical Report for the Ulsan Tests noted that the visual inspection of Sample C “founded small particles [sic],” though this was the only retained sample in which particulate matter was reported. JPTO ¶ 78.

For reference, the Court has recreated, below, a somewhat simplified version of Plaintiff’s Exhibit 80, which was admitted into evidence and which summarizes the overall sampling that took place. PX 80. The left hand column shows the test type and the date(s) on

which those tests took place. The top row or rows, in bold, show the location and date on which the various samples were drawn.

Table 4: Overall Test Results

*****	<u>Shore-tank Yosu</u> (5/20/05)	<u>Green Pioneer</u>		<u>Bow Flora</u>		<u>Rotterdam</u>
*****		Composite After Loading (5/20/05)	Composite Before Discharge (5/21/05)	First Foots (5/24/05)	After Loading (5/24/05)	Before and After Discharge (7/21/05)
<u>Contemp. Test 5/20-5/24</u>	< 5	3	N/A	4	4	N/A
<u>Rotterdam Test 7/29/2005</u>	N/A	40-50 <i>Sample 3</i>	70-80 <i>Sample 5</i>	60-70 <i>Sample 2</i>	35-40 <i>Sample 1</i> 60-70 <i>Sample 4</i> 100-150 <i>Sample 6</i>	>500 <i>Samples 7, 8, 9</i>
<u>Ulsan Test 8/8/2005</u>	3-5 <i>Sample D</i>	N/A	30-50 <i>Sample C</i>	20-30 <i>Sample B</i>	10 <i>Sample A</i>	N/A

E. The Investigation

On July 21, 2005, shortly after the Phenol arrived off-specification in Rotterdam, Marsh hired MTD to investigate the cause of that discoloration. PX 68. MTD is a United Kingdom firm that “speciali[zes] in the forensic investigation of incidents and claims.” Minton Decl. ¶ 4. MTD appointed East as the person who would conduct the “day to day conduct” of Marsh’s case, but stated that he was to do so under Minton’s supervision. PX 68 at App’x 3.1; DX W.

During the course of the investigation, MTD provided Marsh with at least three reports: (1) an email report from East to Marsh’s representative, Robert Sparrow (“Sparrow”), dated August 17, 2005; (2) a final “Report of Martin East,” dated June 23, 2009; and (3) a final “Report of John Minton,” dated February 2, 2010.

In addition to these reports, East had also conducted an initial inquiry and, on July 27,

2005, sent an email to Sparrow, noting “that such a large colour change may not be due to any contamination or transit related event[,] but be due to what is a common cause of phenol degradation, which is an instability in the material, through its manufacture.” DX 0. East cabined this statement, though, adding, “[t]ime and analysis will tell on this one, but there are many cases of [manufacturing defects] in the past.” DX 0.

In the August 17, 2005, “Email Report,” East detailed the basic underlying facts, including the results of the Rotterdam Tests and the Ulsan Tests, and discussed potential explanations for those results and conclusions that could be drawn from them. PX 66. In this report, unlike in his initial email to Sparrow, East concluded that because the retained sample from the shore tanks in Yosu (Sample D) remained on specification in the Ulsan Tests, “the cargo originally loaded out of the shore tank was not inherently colour unstable.” PX 66 ¶ 5.1. He noted, instead, that the fact that the retained samples from the Green Pioneer were “found to be off specification for colour, compared to a sample drawn by SGS and tested on specification at the time of transshipment . . . suggest[ed] that something may have been introduced into the cargo whilst it was on board [the Green Pioneer], which promoted colour instability.” PX 66 ¶ 5.2. On this, he added, the particles in Sample C “may have some relevance.” PX 66 ¶ 5.2. Although Minton was supposed to be supervising East in the creation of this report, and claimed at trial to have been in constant contact with East during the relevant period, the testimony on cross-examination established that Minton had been on vacation during that period. Tr. 287:19-299:8.

Between sending this “Email Report” to Sparrow and issuing his final report in June 2009, East also prepared an internal report, in June 2006, in response to a request from Ertisa regarding a suit Ertisa was bringing against SGS and Heuoung A Shipping, the owner of the

Green Pioneer. DX I; DX K; PX 67; Tr. 201-203. In this internal report, East for the first time mentioned the concept of “seeding,” stating that “[o]nce the colour change has started, a ‘seeding’ action will tend to depress the colour further.” PX 67 at 2; Tr. 209. East went on to state that the Phenol was “probably in apparent good order and condition” after loading to the Green Pioneer, “some ‘seeding’ of the colour had started by this time which led to retained samples being off colour some while later.” PX 67 at 2-3. East also posited a number of potential causes for the injury, stating that seeding was “most probably caused by overheating on the Green Pioneer,” but that “it may have been due additional overheating on the Bow Flora,” and that the possibility of contamination could not be “entirely discounted.” PX 67 3-4; Tr. 207-09. This report was never supplied to Ertisa, and that suit was eventually dropped. Tr. 206-07.

In the June 23, 2009, final “Report of Martin East,” East provided Marsh with a more in-depth discussion of the background of the investigation, the nature of phenol and phenol discoloration, and a summary of his conclusions. PX 68. In part, he noted that “[t]he cause of the colour degradation of this cargo of phenol cannot be stated with certainty,” but stated conclusively that “[w]hat is known, from the joint analysis in Korea, is that whatever external cause it arose between the phenol leaving the shore tank and prior to transshipment to the Bow Flora.” PX 68 at 14. In reaching this conclusion, East again ruled out certain potential sources of the injury -- including manufacturing defects, the presence of copper or water, and exposure to light or air. He posited, however, that the damage could have occurred as a result of overheating or the presence of particulates. With regard to overheating, he noted that this could have occurred either in the shore lines, “when cargo was loaded to the [Green Pioneer],” or, if the Green Pioneer had its heating coils on prior to loading the Phenol, it could have been scorched when it was first loaded onto that boat in Yosu. PX 68 at 16. With regard to the presence of

particulates, East's report noted there was "some kind of matted material (such as a rag)," that was found in Sample C, from the Ulsan Tests, and that it "[was] possible that these particles promoted the discoloration process." PX 68 at 17.

Last, in the February 2, 2010, final "Report of John Minton," Minton altered the relevant paragraphs about his own personal history, as well as the name on the report, but made no other changes or alterations to East's final report. PX 69. Indeed, the only differences between the "Report of Martin East," dated June 23, 2009, and the "Report of John Minton," dated February 2, 2010, are the name and date on the report and the initial "Instructions" page of the report. All other portions are identical. *Compare* PX 68, *with* PX 69. These reports, as well as additional factual and credibility determinations, will be addressed in more depth below.

F. Expert Experience

In relevant part, Plaintiff's experts' had the following academic and professional experience with phenol. East is not a chemist and the full scope of his academic study of chemistry was limited to a single "small" course that he "organized and attended" in the 1980s, Tr. 42-43. Although he had worked in petrochemical shipping, he had not had any experience with phenol prior to joining MTD in 1995, and at the time he was assigned to this investigation, his only exposure to Phenol had been his work on a single case in June 2005. Minton has the equivalent of an undergraduate degree in chemistry, that he obtained about "40 years ago," and he only studied phenol insofar as it was or would have been included in his general organic chemistry classes. Tr. 290-91. While at MTD, he had personally dealt with two or three previous claims involving phenol and although he assumed MTD dealt with many such claims, when pressed, he could only hypothesize as to how many total claims involving phenol his firm had dealt with, saying "I am sure we have had quite a few." Tr. 297.

G. Evidence Regarding “Seeding”

Plaintiff’s experts theorized that the delay between the alleged injury to the Phenol on the Green Pioneer and the manifestation of the damage to the Phenol, its discoloration, could be explained by what they referred to as “seeding.” This “seeding” theory, can be summarized as follows: once an “offending specie(s) or condition(s) ‘seeded’ the Phenol,” such exposure “caused a slowly unfurling chemical reaction in the Phenol that did not become manifest (by developing a color change)” until after the Phenol was transferred from the Green Pioneer to the Bow Flora. East Decl. ¶ 30. In his testimony, Minton expanded on this general description of the experts’ theory. He testified that the process of phenol discoloration, also known as oxidative degradation, “proceeds via free radical chain reactions,” which are initiated by exposure to any one of the various causes for phenol discoloration. Minton Decl. ¶ 22. He testified that his overall process, which he terms “seeding,” begins slowly, “as the first step requires the greatest activation energy,” but stated that an increase in one of the factors that cause discoloration, e.g., an increase in heat, “can lead to an increase in the rate of degradation and further subsequent discoloration.” Minton Decl. ¶¶ 23, 24. This, he argued, explains why the contemporaneous tests aboard the Bow Flora showed no color change, whereas later tests of the samples from the Green Pioneer showed significant discoloration. This is particularly the case, he testified, because the “first oxidation products are colorless and the reaction may, therefore, proceed undetected for a time.” Minton Decl. ¶¶ 22, 25.

II. CONCLUSIONS OF LAW

A. Standard of Review

“In a bench trial such as this, it is the Court’s job to weigh the evidence, assess credibility, and rule on the facts as they are presented.” *Bahrami v. Ketabchi*, No. 05 Civ. 3829

(RMB), 2009 WL 513790, at *9 (S.D.N.Y. Feb. 27, 2009) (quoting *Johnson-McClean Techs. v. Millennium Info. Tech. Group*, No. 02 Civ. 244 (HB), 2003 WL 192175, at *8 (S.D.N.Y. Jan. 27, 2003)) (internal quotation marks and alterations omitted); *see also Mathie v. Fries*, 121 F.3d 808, 811-12 (2d Cir. 1997). “The Court [is] ‘in the best position to evaluate [each] witness’s demeanor and tone of voice as well as other mannerisms that bear heavily on one’s belief in what the witness says.’” *Id.* (quoting *Donato v. Plainview-Old Bethpage Cent. Sch. Dist.*, 96 F.3d 623, 634 (2d Cir. 1996)); *see also Anderson v. City of Bessemer City*, 470 U.S. 564, 575 (1985) (“[O]nly the trial judge can be aware of the variations in demeanor and tone of voice that bear so heavily on the listener’s understanding of and belief in what is said.”). If the “evidence is equally divided . . . ‘the party with the burden of proof losses.’” *Bahrami*, 2009 WL 513790, at *9 (quoting *U.S. v. Gigante*, 39 F.3d 42, 47 (2d Cir. 1994); *Fulop v. Malev Hungarian Airlines*, 244 F. Supp. 2d 217, 223 (S.D.N.Y. 2003) (“The evidence on this issue is substantially divided and, in the Court’s assessment, does not tilt sufficiently to Plaintiff’s case to satisfy the preponderance standard.”). As the plaintiff in this matter, Cedar bears the burden of proof. *Milton Abeles Inc. v. Creekstone Farms Premium Beef, LLC*, No. 06 Civ. 3893 (JFB)(AKT), 2010 U.S. Dist. LEXIS 34017, *14 (E.D.N.Y. Feb. 1, 2010) (“[T]he burden of proof in an action for breach of contract is on the plaintiff to prove the elements of its complaint by a preponderance of the evidence.”).

B. Summary

All other issues aside, in order to prevail, Plaintiff must demonstrate, based on a preponderance of the evidence, that the Phenol was injured prior to crossing the rail of the Bow Flora. Plaintiff acknowledges that it cannot demonstrate the actual cause of the Phenol’s deterioration, PX 66-69, but argues that the results of the post-shipment tests in Rotterdam and

Ulsan establish that it is more likely than not that the injury to the Phenol occurred prior to it passing the rail of the Bow Flora. In contrast, Defendant argues that the test results are, in whole or in part, inconsistent, unreliable, and inconclusive, and that, as a result, Plaintiff cannot meet its burden.

Two undisputed facts guide the Court's analysis of these arguments: first, that the results of the contemporaneous tests -- which show the Phenol as on-specification prior to and after transfer to the Bow Flora -- are an accurate depiction of the color of the Phenol at the time those samples were pulled; and, second, that when the Phenol arrived in port at Rotterdam it was wildly off-specification. Plaintiff has conceded that, in order to make the requisite showing and account for these facts, the Court must be persuaded by its experts' theory with regard to "seeding."¹ Tr. 497:8-10. In its most basic form, that theory is as follows: because Samples 3, 5, and C were off-specification at the post-shipment tests, it is more likely than not that prior to transfer to the Bow Flora, an "offending specie(s) or condition(s) 'seeded' the Phenol," and that this "caused a slowly unfurling chemical reaction in the Phenol that did not become manifest (by developing a color change)" until some point after the product was transferred to, and contemporaneously tested on, the Bow Flora. East Decl. ¶ 30. For the reasons discussed below, the Court was not persuaded by that theory.²

¹ After a brief discussion on this point, the following exchange took place between the Court and Mr. Lillis, counsel for Plaintiff:

THE COURT: So, for you to prevail, I have to be persuaded of your expert's seeding theory.

MR. LILLIS: Yes.

Tr. 497:8-10.

² It bears noting that, even had the Court been persuaded by Plaintiff's theory and concluded that it was more likely than not that the injury occurred prior to the Phenol crossing the rail of the Bow Flora, Plaintiff would still have been required to show that the damage to the Phenol was actually attributable to the injury suffered aboard the Green Pioneer, rather than by any subsequent injurious or exacerbating event(s) aboard the Bow Flora, and that Defendant was liable under the CISG for defects, such as this, that were not manifest at the time risk of loss passed. These matters were the subject of the parties' post-trial briefing, however, having determined that Plaintiff was unable to meet its initial factual burden, the Court does not reach the additional hurdles that Plaintiff would otherwise have needed to overcome in order to prevail.

C. The Court was Not Persuaded by Plaintiff's Experts' "Seeding" Theory

Having observed the trial in this matter and reviewed the totality of the evidence presented and the parties pre- and post-trial submissions, the Court concludes that Plaintiff's "seeding" theory was not persuasive for the following reasons:

First, on its most basic level, Plaintiff's "seeding" theory was not persuasive because it could not account for the results of the post-shipment tests. If Plaintiff's theory were correct, the results from the post-shipment tests would show a steady upward trend, with the Hazen units increasing with the passage of time. Here, however, if the results of the tests were depicted graphically, the result would show a series of peaks and valleys rather than the steady upward slope that Plaintiff's theory would predict. Indeed, whether viewing the Rotterdam and the Ulsan tests independently or in conjunction, no graphical representation of the post-shipment test results yields the expected result.

Second, although they offered any number of hypothetical explanations, Plaintiff's experts were unable to offer any single explanation that plausibly accounted for the basic fact that the data did not comport with their "seeding" theory. The proposed explanations included, among others, potential differences in how the samples were pulled, who pulled the samples, how the samples were tested, who tested the samples, and how the samples were stored. Ultimately, none of the theories offered actually explained the data in a way that would support Plaintiff's theory, and the very abundance of explanations undermined the plausibility of any single one.

Third, the Court was not persuaded that an injury to the Phenol could have remained undetectable for any substantial period of time, let alone that such an injury could remain undetectable for the three to four days that passed between the samples that were drawn aboard

the Green Pioneer and those that were drawn during and after transfer to the Bow Flora.

Plaintiff's experts were unpersuasive on this point, and this dormancy does not comport with the scientific literature provided, which discusses color change as occurring instantaneously or within minutes of the introduction of the injurious condition.

Fourth, Plaintiff's "seeding" theory contradicts Irissari's testimony with regard to the practice of blending on- and off-specification phenol, as any blending would, under Plaintiff's theory, inevitably lead to the sample once again worsening.

Fifth, East's testimony was not generally credible. The evidence, testimony, and East's demeanor demonstrated the following:

- i. East was prone to reach hasty decisions, based on incomplete and imprecise analysis of evidence, and to ignore data that did not support his eventual conclusion;
- ii. East's final conclusion was based on essentially the same evidence as his conclusions in the August 17, 2005, "Email Report" and the June 28, 2006, internal report, and yet at each stage he becomes more certain, despite not having conducted follow up steps or investigation that his earlier reports had suggested were necessary;
- iii. East did not make his final report until four years after the event in question and three years after the commencement of litigation in this matter;
- iv. East's academic qualifications to allow him to testify regarding Phenol discoloration were lacking; and
- v. East lacked the necessary experiential qualifications.

Sixth, and finally, Minton's testimony was also not generally credible. The evidence,

testimony, and Minton's demeanor demonstrated the following:

- i. Minton, at best, overstated his involvement in the initial investigation in August 2005;
- ii. Minton also, at best, overstated his involvement in the investigation as a whole, a fact particularly and egregiously demonstrable with respect to the report, dated February 2, 2010, which bears his name, but which is nothing more than a verbatim copy -- down to the factual and typographical errors -- of East's report, dated June 23, 2009;
- iii. Minton also, at best, misrepresented the nature of his supplemental report on the discoloration of phenol during shipment and storage, dated June 3, 2010, PX 70, and was less than forthright with regard to his involvement in its creation;
- iv. Minton lacked directly applicable or up-to-date academic experience, which was particularly noteworthy in this case given that Phenol discoloration is, by Minton's own admission, "a very poorly understood subject, even with a great deal of research," Tr. 299:5-8;
- v. Minton was unable to identify specific portions of the articles he had compiled that would support his overall theory that the injury to the Phenol could have remained undetectable during and after transfer to the Bow Flora, Tr. 328-333, and Plaintiffs have not directed the Court's attention to such passages in any of their post-trial submissions. Although Minton testified that certain articles were relevant because they discussed "reaction rates, temperatures, free radical production, [and] the acceleration of free radical production," Tr. 328:24-329:1, he acknowledged, on cross-examination that specific passages in at least four of

the articles described the process of phenol discoloration as occurring in a manner that directly contradicted his overall theory, *see* PX 70-C at 389; PX 70-D at 363; PX 70-I at 5539; PX 70-J at 728; and

vi. Minton also lacked the necessary experiential qualifications, Tr. 297.

In sum, the experts' overall theory of "seeding," which Plaintiff correctly conceded was a requisite showing for the Court to find liability, was inconsistent with the data, lacked plausibility under the facts as compared to the provided scientific research, and was unsupportable by the experts, who were themselves not credible on the relevant subject matter.

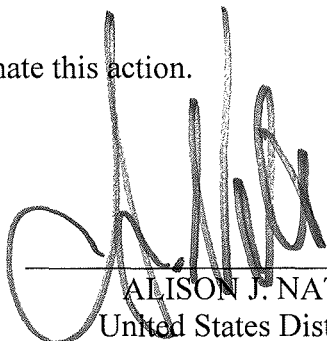
II. CONCLUSION

Based on the above-mentioned findings of facts and conclusions of law, the Court concludes that Plaintiff has not shown by a preponderance of the evidence that the Phenol at issue was injured prior to crossing the rail of the Bow Flora. Having failed to make this showing, Plaintiff cannot establish that Defendant breached the parties' agreement. Accordingly, judgment is granted in favor of Defendant.

The Clerk of the Court is directed to terminate this action.

SO ORDERED:

Dated: October 21, 2013
New York, New York


ALISON J. NATHAN
United States District Judge